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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,017	07/30/2003	Martin Kreuzer	TRW(ASG)6675	7765

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EXAMINER

KIM, CHONG HWA

ART UNIT PAPER NUMBER

3682

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/630,017

Applicant(s)

KREUZER, MARTIN

Examiner

Chong H. Kim

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/11/03; 9/23/04</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 10 recites the limitation wherein the pump moves the fluid in a stochastic process. The specification, as originally filed, discusses about the possibility of applying stochastic process to move the fluid on page 5, lines 8-11. It is not clearly described how one of ordinary skill in the art can make and use the invention, particularly the stochastic process to move the fluid.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "said safety system" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 3682

Claim 14 recites the word “it” in line 4. It is not clear which element the word “it” is referring to.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 4, 7-9, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bengler, DE 19852315.

Bengler shows, in Figs. 1-4, a vehicle steering wheel comprising a steering wheel rim 2; at least one tube 4 which is filled with a fluid and arranged in the steering wheel rim; and a device for generating a pressure wave in the fluid; the device being designed and the tube being arranged such that the pressure wave generates a haptic signal, able to be perceived by a driver, on a surface of the steering wheel rim; wherein the tube runs concentrically to a rotation axis of the steering wheel along the steering wheel rim; wherein the fluid is a liquid; wherein the device is a pump (inherent since the pressure in the fluid changes); wherein the pump is arranged in a region of a hub of the steering wheel; wherein the pump sets a predetermined volume of the fluid into an oscillating movement; wherein the device is designed such that the pressure wave in the fluid brings about a vibration movement of the steering wheel rim (inherent since the changes in fluid pressure in itself causes vibration); and wherein the device generates a pressure wave running along the circumference of the steering wheel rim, seen in a direction of the steering wheel's rotational axis.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bengler in view of Kurata et al., U.S. Patent 4,547,655.

Bengler shows, as discussed above in the rejection of claim 1, the steering wheel comprising the steering wheel rim with a cover that covers the tube, but fails to show the cover being a leather.

Kurata et al. shows, in Fig. 7, a steering wheel comprising a steering wheel rim with a cover 22 that is made of leather.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the leather cover as taught by Kurata on the metal or plastic rim gripping surface of Bengler in order to provide a better grip by preventing slipperiness between the hands and the steering wheel so that a better operating condition is produced.

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bengler.

Bengler shows, as discussed above in the rejection of claim 1, the steering wheel comprising the steering wheel rim having a liquid filled tube, but fails to show the fluid being either air or glycol. However, because these fluid materials were art-recognized equivalents at the time of the invention as means to be pressurized for a tactile application where it is

Art Unit: 3682

immaterial whether the fluid is air or some other known stable liquids, one of ordinary skill would have found it obvious to substitute air or glycol for the liquid used in Bengler.

Furthermore, since applicant has not disclosed that having the specific fluid in the tube solves any stated problem or is for any particular purpose and it appears that the haptic signal would be produced equally well with the fluid being any stable fluid, it would have been obvious to modify the liquid of Bengler with either air or glycol.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bengler in view of Noda et al., U.S. Patent 4,640,340.

Bengler shows, as discussed above in the rejection of claim 1, the steering wheel comprising the steering wheel rim with the tube being disposed in the rim at three separate grip locations, but fails to show the tube being extended over at least 240 degrees along the rim.

Noda et al. shows, in Fig. 1, a steering wheel comprising a steering wheel rim with a tube 12, wherein the tube extends over at least 240 degrees along the circumference of the steering wheel rim seen in a direction of the steering wheel's rotational axis.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the tube being located at the limited gripping location of Bengler with the tube that extends around the rim as taught by Noda et al. in order to provide a haptic signal that can be felt throughout the rim so that the driver can be alerted more effectively.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haptic signal producing steering wheel.

Noda et al., U.S. Patent 4,631,976

Reece, U.S. Patent 5,605,643

Tartarini, U.S. Patent 3,585,626

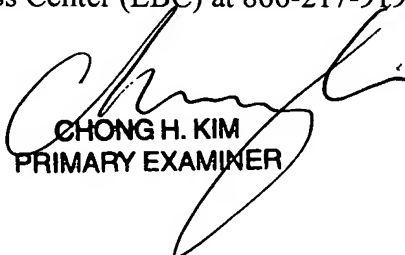
Aram, WO 9807126 A

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (571) 272-7108. The examiner can normally be reached on Monday - Friday; 6:00 - 2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

chk  
March 18, 2006

  
CHONG H. KIM  
PRIMARY EXAMINER